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DEPARTMENT OF STATE

Washington, D.C. 20520

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

ILLEGIB

August 3, 1981

CONFIDENTIALMEMORANDUM

To : IG Members

From : OES - Harry R. Marshall, Jr., Acting

Subject: Draft Paper on Plutonium Policy

Attached is a redraft of the plutonium policy paper previously circulated to the IG. Any further comments should be provided by COB August 14. As a next step, we probably will need a one or two page summary for transmission at an appropriate time to the President in accordance with the PPD. Please phone comments to John Boright (632-3310) or Sherman Hinson (632-2226).

Attachment:
As stated.

State Dept. review completed

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CONFIDENTIAL/N:JBoright
7/21/81: x23310PLUTONIUM USEIntroduction/Use

This paper addresses the US policy approach to plutonium presence and use worldwide.

Our approach to this subject will need to deal simultaneously with two major considerations. First, plutonium separation and use, particularly in fast breeder reactors, is an energy option of potentially major medium or long-term importance to the US and to key industrialized allies -- the advanced European states and Japan. Second, separated plutonium, as a material directly usable in nuclear weapons, raises important security concerns related to proliferation risks in certain areas, and more generally to risks of theft, seizure, or terrorist action.

Operationally, plutonium use policy arises primarily in the context of exercise of US rights of approval over retransfer, reprocessing, storage and use of plutonium generated in fuel subject to US peaceful nuclear cooperation agreements. Under US law, new or amended agreements for peaceful nuclear cooperation must provide for a US right of consent to reprocessing of US-supplied fuel or special nuclear material produced through US supply, to the retransfer of any US-supplied item or material produced through its use, to the alteration in form or content of US-supplied or derived weapons-useable material or irradiated fuel elements, and to storage facilities for US-supplied or derived weapons-useable material. Negotiations have been initiated with most of our cooperating partners to obtain those of the rights listed that are not reflected in current agreements. In theory, the President can waive any of

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these, except that the consent rights that are also statutory export conditions must be incorporated in agreements in order to permit predictable exports. The latter are consent to retransfer of US-supplied equipment or material and special nuclear material produced through such material, and consent to reprocess or alter in form or content: US-supplied material and special nuclear material or irradiated fuel elements produced through the use of such material. All our current agreements (except those with EURATOM) contain these latter rights. Detailed statutory procedures and standards are set forth for US action on requests by foreign countries for these consents.

We face the following particular problems:

-- We have in the past approved retransfer of spent fuel from Japan to the UK or France on a limited, case-by-case basis, ^{and} have reserved a further right to approve any use of the resulting plutonium, but have not indicated how it can be used. Japan wants more general consent for retransfer and use. Also, we are being pressed by Japan to make permanent our present temporary approval for reprocessing in the Tokai plant of US-origin fuel. They also want our acceptance of a new Japanese plant which would also reprocess US-origin fuel (while recognizing that the explicit joint determination would have to be made thereafter). We need to decide whether to link such approvals to the conclusion of a new agreement for cooperation with Japan.

-- In the case of EURATOM, we have consent rights

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with regard to third-party retransfer, but we do not now have rights to approve reprocessing or plutonium use within the EURATOM countries. We have asked for a renegotiation of the US/EURATOM agreements to provide us such rights, but have not clearly indicated how they would be exercised. Until we obtain this right (or alter the law), annual Presidential decisions to permit continued cooperation with EURATOM will be needed. The EC has settled this issue with Australia and will soon with Canada, on the basis of consent for plutonium use in a defined program. With regard to plutonium derived from spent fuel subject to US consent transferred into EURATOM (UK and France) for reprocessing, we need to address the question of the use of such plutonium.

-- Sweden, Switzerland and Finland have no plans for reprocessing or plutonium use, but dispose of spent fuel by retransfer for reprocessing in the UK and France. In renegotiation of our bilaterals, each has sought definition of how we will exercise our consent rights and our approval of such retransfers under existing contracts. We need to decide how to deal with these requests. Spain has indicated a possible future interest in reprocessing but has made no request for general definition of exercise of our consent rights and, due to its plans to enter the EC, there are currently no active negotiations for a revised cooperation agreement.

-- In certain other situations in which the US has a supply relationship, presence of separated US-origin plutonium or of an indigenous reprocessing capability could have negative security or political implications. We must, therefore, consider the implications of our EURATOM/Japan approval policies for cases where we now or in the future do not want to consent

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to indigenous reprocessing or return of plutonium (eg. India, Taiwan, Egypt).

-- We will need to respond to questions from such countries as Korea and Brazil as to how our existing consent rights, with regard to retransfer, reprocessing and plutonium use, will be exercised.

-- In formulating approaches to these situations, we must consider specific US policies related to: plutonium use in fast breeders, advanced thermal reactors, LWR's, or research; the relationship of reprocessing to waste disposal; and the role of control measures such as International Plutonium Storage .

-- There are important related questions with regard to IAEA safeguards. In particular, some of our existing rights of approval are in terms of need for a joint determination that the safeguards provisions of agreements can be effectively applied.

-- The formulation and exercise of consent rights by other nuclear suppliers, particularly Australia and Canada, but also France, FRG and others, will have an important bearing on what is achievable for the US.

-- Finally, US policy with regard to high enriched uranium (HEU) use, supply, and retransfer should also be addressed in view of the similarity of risks of plutonium and HEU, and the parallel nature of findings which might be required.

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The sections below present a general policy framework and approach, its application to some of the issues mentioned above, and interim guidance for dealing with immediate consent decisions. Country-specific decisions will need to be made in the context of overall bilateral relations and security/non-proliferation considerations.

General Approach

The general policy approach must, as pointed out above, recognize that weapons-useable material entails special risks and thus requires special measures. Concern over this problem, and desire to minimize the risks as effectively as possible, should thus be an element of continuity in US policy. However, we also need to restore our close cooperative relationship with our major allies. A harmonization of relations with our allies will require a) a reasonable degree of commonality in general approach, b) exercise of US consent rights in such a way as to provide a predictable and reliable basis for nuclear power programs, and c) recognition that where we want to influence program decisions of these allies, we must depend more on communication, persuasion, and considerations of practicality than on pressure or insistence on acceptance of unilateral US decisions. In particular, it is clear that we will need to provide generic or programmatic approvals for reprocessing and use of plutonium in EURATOM and Japan. In the case of EURATOM, renegotiation will be impossible without this. Australia and Canada have already accepted programmatic approvals. Such programmatic approvals were not provided by the previous Administration, although Ambassador Smith did indicate as a "personal" idea a somewhat restricted form of programmatic consent.

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Thus we must consider the options with regard to how programmatic and other advanced countries or generic approval would be reflected in our EURATOM and Japan/agreements. This question must be looked at in the context of the various specific end uses, and of implications for US approval rights under other agreements.

An essential point is that the nuclear programs and security contexts of our cooperating partners differ widely. For example, in the case of our agreement with Egypt, we have ruled out indigeneous reprocessing, and as a practical matter it would not be advantageous to Egypt for the foreseeable future. As a second example, we are at an advanced stage of negotiation with Sweden, which has informed us it has no desire to reprocess or recycle plutonium indigeneously, but desires only an unhindered ability to transfer spent fuel to the UK or France for reprocessing. In the case of Korea, an NPT party with a vigorous nuclear power program, plutonium use will raise security concerns. Korea believes it must be prepared for the breeder reactor and will probably press for some sort of "equal treatment" in the field of plutonium use. Our interest for some time to come will be best served by avoiding approval of reprocessing in Korea, but at the same time avoiding a confrontation by deferring the question to the degree practicable.

The previous Administration was actively opposed to recycle of plutonium in thermal reactors. Although blanket approval for this plutonium use could be siezed on as a justification for reprocessing by any country which possesses a reactor, we will not be inclined to approve this plutonium use in any country not an advanced nuclear

power state. Previous US efforts to obtain broad agreement excluding thermal recycle did not succeed and such a policy is not likely to succeed in the future. Our major allies are reluctant to formally exclude the option, even though it is not now their preferred option. They note that in the future unforeseen developments (such as delays of breeder plans) might make it desirable to utilize plutonium in thermal reactors.

With regard to the desirability of reprocessing for waste management purposes, circumstances differ from country to country. As stated in INFCE, waste management considerations do not make a compelling case for selection of a fuel cycle. However, several countries have decided on reprocessing as an integral part of their waste management approach. We will not want to block the responsible reprocessing and waste management plans of any advanced nuclear power state. On the other hand, in some countries further storage or use of reprocessing or storage services in an advanced nuclear power state would be better than indigenous reprocessing and disposal on environmental, economic or non-proliferation grounds.

Thus while in principle reprocessing and plutonium use approvals could be presented as blanket approvals of specific end uses for all countries, such an approach would seriously compromise our flexibility in other cases. Therefore, US approvals should not, either in the bilateral documents or in public policy descriptions, be presented in terms of specific reprocessing purposes or plutonium uses which would, by themselves, always receive US approval. In particular, we would neither generically approve nor disapprove reprocessing for waste management, breeders, thermal recycle nor any other specified

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purpose in all cases. Rather, US approvals should be on an overall program basis and decided in view of specific country situations. Essentially, we would obtain from the cooperating state a characterization of its program plans. US approval for the proposed reprocessing, storage, retransfer and use of plutonium would be provided on the basis of the coherence and responsible nature of the specified program as a whole. This provision of information by the cooperating state and overall US approvals would be reflected in confidential documents (such as confidential agreed minutes, exchanges of notes, or "implementing arrangements" as utilized by Australia) implementing our approval rights under agreements for cooperation.

In discussion with other countries of the proposed programmatic approval process, the US should avoid the appearance (or reality) of a detailed second-guessing of scheduling, the detailed quantities of plutonium required, and the choice of plant sizes. We would approve transfers to reprocessing plants in advanced nuclear power countries where no significant proliferation risk existed based on fuel disposal or waste management considerations. As a matter distinct from consent rights, however, the US should make the case to our cooperating partners that scheduling should, of course, take into account economics and scale factors, but should also, to the degree possible, match availability of plutonium with requirements for it. A second point is that large centralized reprocessing plants would have advantages over small decentralized plants in terms of non-proliferation precedent and physical protection capabilities. Such policy considerations will be more effectively pursued by persuasion than by pressure.

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Public or policy statements will need to avoid compromise of this general approach. They should be balanced and technically based. For example, the importance attached by some states with large grids and substantial infrastructure to a breeder option should be recognized. The magnitude (and thus the burden) of breeder development costs for smaller and less advanced countries should also be recognized. We would generally not raise recycle in thermal reactors. If raised by others, it should be recognized as a less efficient plutonium use, and one not necessarily appropriate for widespread application; however, our statements should not exclude a role for thermal recycle in advanced nuclear power states.

US consent rights over reprocessing under many existing cooperation agreements are based on need to make a joint determination that the safeguard provisions of the agreements can be effectively applied. (It should be recognized that some of our partners believe that the intention of these provisions clearly was not that the US could, as a condition of US consent, demand concessions on matters not directly related to these safeguards.) The NNPA conditions US participation in such determinations on findings that the arrangement is not inimical to the US common defense and security, and will not result in a significant increase in the risk of proliferation. It requires that "foremost consideration" be given to whether or not the reprocessing (or retransfer) will take place under conditions that will ensure timely warning to the US of any diversion well in advance of the time when a non-nuclear-weapon state could produce an explosive device with the diverted material. A policy approach is needed,

therefore, with regard to:

- The general question of whether even immediate detection would provide timely warning for separated plutonium or highly enriched uranium, and
- whether it is technically feasible for the IAEA to have high confidence that a significant diversion will be detected within days to weeks.

With regard to timely warning, the Administration should emphasize that the legally controlling judgment is whether the proliferation risk is significantly increased by a US consent to reprocessing, retransfer for reprocessing or plutonium retransfer. It must also be remembered that an overly-strict interpretation of the NNPA's "timely warning" language would be inconsistent with our NPT Article IV obligations. It is clear that the NNPA does not rule out plutonium use as a general rule, nor is such use subject to the timely warning test, ie. after retransfer. In fact, the legislative history of the NNPA contemplates a more flexible interpretation of the significant increase of proliferation risk standard (pages 13-14 of Senate Report No. 95-467).

While the US will therefore not claim that plutonium use is by definition unacceptable everywhere, we will recognize the proliferation and terrorist/seizure risks inherent in the presence of separated plutonium or HEU. We will therefore: ask our allies for rhetorical and practical assistance in discouraging such presence; ask for a general commitment to consideration of an IPS system, if established; seek to reduce the use of HEU in research reactors and, in regions of volatility, to eliminate such use; and continue to

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emphasize, as appropriate, measures such as improved physical security and storage or shipment in safer physical or chemical forms. We will also continue to promote multinational arrangements for future reprocessing and enrichment facilities as well as relocation, to the degree practicable, of activities which involve presence of separated plutonium.

With regard to safeguards on reprocessing plants, it must be recognized that high confidence of detection of diversion will be technically difficult. In this connection, we should a) maintain our support for present IAEA technical goals, but emphasize that these are goals and not rigid requirements, and that reasonable confidence in timely detection is the key factor, b) pursue active safeguards R&D and cooperation with the IAEA and other states, and c) ask, as part of overall arrangements, for specific commitments by Japan and others to continued cooperation in this area.

The combination of:

- a) approvals based on overall programs,
- b) avoidance of universal judgments on the rationale for reprocessing or for specific plutonium uses, and
- c) emphasis on need for special measures to avoid or minimize risks of explosive-usable material

will provide a basis for flexibility with regard to US approvals in cases other than the advanced European nations and Japan. In general, a sequence of options for disposition of spent fuel would be considered. The US will, in general, provide any cooperating partner with programmatic consent for retransfer to the UK or France, while retaining consent rights over retransfer of plutonium out of the EC. Much more

selectivity will be applied to requests for consent to indigenous reprocessing. For example, adherence to the NPT or full-scope safeguards as in the case of Spain will generally be a criterion for such approval decisions. Elements in the US decision on programmatic consent for each case should include a determination on proliferation risk relating to such reprocessing and the relationship of the decision to the security situation in the region, as well as programmatic justification and importance of the proposed program. The US will consider participation in an effective IPS to be a positive factor in consent decisions, but not one that by itself is determining.

This approach is broadly similar to that adopted by Australia, except that the US would not limit its cooperation to include only those states party to the NPT. The US should consult with the advanced nuclear power states, as well as with Australia (and Canada), to both explain the above approach and to cooperate in maintaining flexibility for cases of genuine concern.

It must be recognized that the policy approach outlined here will involve difficulties. Internationally, the pressure for equal treatment, and for most-favored-nation guarantees, will be very strong. We must be prepared, when pressed, for careful and logical program discussions with our cooperating partners. In that connection, INFCE findings with regard to questions of scale, times required, and RD&D costs in the areas of reprocessing, breeder reactors and with regard to options for waste management may be helpful if used cautiously. Domestically, some elements in Congress and the public may consider it to be a significant retreat from non-proliferation efforts, and others may consider it too restrictive. The case must be made that

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the non-proliferation goal remains--our specific policies are chosen to maximize effectiveness. Flexibility and respect for energy programs will contribute to, rather than detract from, the effectiveness of our efforts in the non-proliferation area.

Specific Cases

1. Japan. We are now being pressed vigorously by Japan for an early and programmatic approval for reprocessing at Tokai, for a willingness to provide generic approval for the reprocessing of US-origin material in a future reprocessing plant in Japan (subject to safeguards reviews), and for plutonium use in breeders and the ATR. While perhaps not pressing it, Japan will not want to foreclose LWR recycle. Our strategy should be to privately inform Japan at a high level that we will accept these elements of the Japanese program, but clearly explain that for a long-term arrangement we must do so in the procedural mode described above (provision by Japan of program information and subsequent US programmatic approval) in order to avoid a precedent which is damaging in situations where US consent is not appropriate. We would tell them that a moderate amount of time (at least several months) will be required to work this through. The procedural mode described here could be implemented in relation to the existing US-Japan agreement for cooperation. If we pursue renegotiation of our agreement, the basic programmatic consent on a limited basis will need to be offered before we could reasonably expect to conclude a new agreement.

We will need to face the specific issue of a "joint determination" with regard to Tokai. We will make such a determination in the

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context of such factors as the fact that Japan represents no foreseeable proliferation risk. Factors such as plant size, INFCIRC/153 safeguards, and active Japanese cooperation with, and support of, IAEA safeguards are also relevant. It would also be made clear that continued active cooperation on reprocessing plant safeguards will be necessary.

While we will not yet be able to make a joint determination for a future plant, we can, in making an overall programmatic arrangement, essentially define the considerations and criteria that will be relevant at the time appropriate for such a determination. With Japan, the US will encourage implementation of an effective IPS, and perhaps commit to best efforts, but will not make it a required element for programmatic approvals. Such a requirement of acceptance of a still-undefined regime would (with some justification) be rejected. Finally, we should be prepared to continue overall consultations on Japanese and US plutonium supply and demand, and to consider mutually-beneficial options (such as possible US purchase of excess plutonium stored at Windscale, if desirable in view of US breeder program needs).

2. EURATOM. The US will make clear our willingness to provide programmatic approval, as described above, under a renegotiated US/EURATOM agreement for cooperation. As an element in advocating this, we would indicate the political desirability of parallel US/EURATOM and Australia/EURATOM agreements, to provide an acceptable basis for flexibility in dealing with certain other countries which may be of more concern. We would accept a slow pace of negotiation with EURATOM, and would aim (as with Japan) for understandings with

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regard to safeguards development and to establishment of an effective IPS system.

3. Sweden, Finland, Switzerland, Spain. These nations have no present plans for domestic reprocessing or for domestic use of recovered plutonium (although Spain has noted a future interest in reprocessing). Sweden has decided not to use plutonium nor to reprocess it indigeneously. However, Sweden does wish (as do others in this category) to retransfer spent fuel to the UK and France for reprocessing and use in EURATOM. We plan to provide programmatic approvals of such retransfers, as described above.

4. Taiwan, Korea. In the case of such countries with actively developing power programs, we would neither permanently exclude nor move soon to provide programmatic plutonium use approvals. We could provide case-by-case approval of retransfer for reprocessing in France and the UK. We would generally defer discussion, if possible, and if not we would discuss proposed programs, making the point that decisions as to plutonium use are some years in the future.

5. Other Cooperating Partners. These nations generally either do not now have power programs or present unique problems. In the latter cases, the issue of any reprocessing or plutonium use approval would require special consideration.

Interim Guidance

In the interim, requests for retransfer for reprocessing in the United Kingdom or France will be promptly approved where the statutory requirements are met and without linkage to other issues. Once

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agencies, including the NRC, have been consulted as required by statute, and the State Department has concurred, DOE will make the approval decision and take the necessary procedural steps (Congressional notification and Federal Register notice) without delay. To facilitate this process, ACDA could undertake a review to permit the Director to inform DOE, on a generic basis, that unless significantly changed circumstances occur, it does not intend to prepare any Nuclear Proliferation Assessment Statement for retransfers for reprocessing in the United Kingdom or France.